PROFILE SHEET
Life Science

Publisher: Glencoe/McGraw-Hill
Text/Instructional Material: Glencoe Life Science, Online Edition, 2002

Science Standard	Rating		
	Adequate	Limited	No Evidence
LS.1		✓	
LS.2	✓		
LS.3	✓		
LS.4	✓		
LS.5	✓		
LS.6	✓		
LS.7	✓		
LS.8	✓		
LS.9	✓		
LS.10	✓		
LS.11		✓	
LS.12	✓		
LS.13	✓		
LS.14	✓		
Additional Criteria			
LS-AC.1	✓		
LS-AC.2	✓		
LS-AC.3	✓		
LS-AC.4	✓		
LS-AC.5		✓	

The Virginia Department of Education recommends to the Board of Education:

YES __✓___ NO_____

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.1 The student will plan and conduct investigations in which			
a) data are organized into tables showing repeated trials and means;		✓	
b) variables are defined;		✓	
c) metric units (SI - International System of Units) are used;	✓		
d) models are constructed to illustrate and explain phenomena;	✓		
e) sources of experimental error are identified;		✓	
f) dependent variables, independent variables, and constants are identified;			✓
g) variables are controlled to test hypotheses and trials are repeated;	✓		
h) continuous line graphs are constructed, interpreted, and used to make predictions;		✓	
i) interpretations from a set of data are evaluated and defended; and	✓		
j) an understanding of the nature of science is developed and reinforced.	✓		
Overall Rating for Standard		✓	

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.2 The student will investigate and understand that all living things are composed of cells. Key concepts include			
a) cell structure and organelles (cell membrane, cell wall, cytoplasm, vacuole, mitochondrion, endoplasmic reticulum, nucleus and chloroplast);	✓		
b) similarities and differences between plant and animal cells;	✓		
c) development of cell theory; and	✓		
d) cell division (mitosis and meiosis).	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.3 The student will investigate and understand that living things show patterns of cellular organization. Key concepts include			
a) cells, tissues, organs, and systems; and	✓		
b) life functions and processes of cells, tissues, organs, and systems (respiration, removal of wastes, growth, reproduction, digestion, and cellular transport).	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.4 The student will investigate and understand that the basic needs of organisms must be met in order to carry out life processes. Key concepts include			
a) plant needs (light, water, gases, nutrients);	✓		
b) animal needs (food, water, gases, shelter, space); and	✓		
c) factors that influence life processes.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.5 The student will investigate and understand how organisms can be classified. Key concepts include			
a) the distinguishing characteristics of kingdoms of organisms;	✓		
b) the distinguishing characteristics of major animal and plant phyla; and	✓		
c) the characteristics of the species.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.6 The student will investigate and understand the basic physical and chemical processes of photosynthesis and its importance to plant and animal life. Key concepts include			
a) energy transfer between sunlight and chlorophyll;	✓		
b) transformation of water and carbon dioxide into sugar and oxygen; and	✓		
c) photosynthesis as the foundation of virtually all food webs.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.7 The student will investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Key concepts include			
a) the carbon, water, and nitrogen cycles;	✓		
b) interactions resulting in a flow of energy and matter throughout the system;	✓		
c) complex relationships within terrestrial, freshwater, and marine ecosystems; and	✓		
d) energy flow in food webs and energy pyramids.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.8 The student will investigate and understand that interactions exist among members of a population. Key concepts include			
a) competition, cooperation, social hierarchy, territorial imperative; and	✓		
b) influence of behavior on a population.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.9 The student will investigate and understand interactions among populations in a biological community. Key concepts include			
a) the relationship among producers, consumers, and decomposers in food webs;	✓		
b) the relationship of predators and prey;	✓		
c) competition and cooperation;	✓		
d) symbiotic relationships; and	✓		
e) niches.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.10 The student will investigate and understand how organisms adapt to biotic and abiotic factors in an ecosystem. Key concepts include			
a) differences between ecosystems and biomes;		✓	
b) characteristics of land, marine, and freshwater ecosystems; and	✓		
c) adaptations that enable organisms to survive within a specific ecosystem.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.11 The student will investigate and understand that ecosystems, communities, populations, and organisms are dynamic and change over time (daily, seasonal, and long term). Key concepts include			
a) phototropism, hibernation, and dormancy;		✓	
b) factors that increase or decrease population size; and	✓		
c) eutrophication, climate change, and catastrophic disturbances.		✓	
Overall Rating for Standard		✓	

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.12 The student will investigate and understand the relationships between ecosystem dynamics and human activity. Key concepts include			
a) food production and harvest;	✓		
b) change in habitat size, quality, and structure;	✓		
c) change in species competition;	✓		
d) population disturbances and factors that threaten and enhance species survival; and	✓		
e) environmental issues (water supply, air quality, energy production, and waste management).	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.13 The student will investigate and understand that organisms reproduce and transmit genetic information to new generations. Key concepts include			
a) the role of DNA;	✓		
b) the function of genes and chromosomes;	✓		
c) genotypes and phenotypes;	✓		
d) factors affecting the expression of traits;	✓		
e) characteristics that can and cannot be inherited;	✓		
f) genetic engineering and its applications; and	✓		
g) historical contributions and significance of discoveries related to genetics.	✓		
Overall Rating for Standard	✓		

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Science Standard	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
LS.14 The student will investigate and understand that organisms change over time. Key concepts include			
a) the relationships of mutation, adaptation, natural selection, and extinction;		✓	
b) evidence of evolution of different species in the fossil record; and	✓		
c) how environmental influences, as well as genetic variation, can lead to diversity of organisms.	✓		
Overall Rating for Standard	✓		

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
1. Safe use of materials and equipment is encouraged.	✓		
Overall Rating for Additional Criteria 1	✓		
2. Materials emphasize the use of effective instructional practices and learning theories. • Students are guided through different approaches such as the learning cycle. • Students are provided the opportunity to conduct scientific inquiry appropriate for their age, grade, and maturity. • Concepts are introduced through concrete experiences. • Students are required to use manipulative materials during investigations and activities. • Multiple opportunities are provided for students to apply concepts. • Learning activities offer opportunities for students to revise their prior knowledge and create new knowledge. • Students are encouraged to pose questions and to identify problems, as well as propose multiple solutions and design and conduct tests of inference. • Students collect and interpret data through a variety of technologies and draw conclusions based on that data.	✓		
Overall Rating for Additional Criteria 2	✓		

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
3. Materials present content in an accurate, unbiased manner, and are based on sound science. • Materials do not contain content errors (omissions of current content, out-of-date content, overgeneralizations, etc.).* • Materials do not contain production errors (misspelled words, word omissions, incorrect answers).* • Diverse groups (racial, ethnic, cultural, linguistic), males and females, people with disabilities, and people of all ages are represented appropriately. • The materials are free of non-scientific explanation.	✓		
Overall Rating for Additional Criteria 3	✓		

*Please note that the Department of Education does not certify that all inaccuracies and/or grammatical errors have been detected in this instructional item and reported in this correlation profile.

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
4. Materials promote student assessment as an integral part of the instructional process. • Assessment suggestions and scoring criteria for student performances on work such as lab practicals or tasks, concept maps, research projects, observation checklists, etc., are provided. • Assessment items include multiple-choice, short answer, essay and open-ended questions with charts, graphs, and diagrams imbedded within the items. • Options include techniques for assessing students' prior knowledge. • Assessment items reflect the rigor and the intent of the standards. For example, they require students to use higher order thinking skills to apply, analyze, synthesize, evaluate, and make judgments or recommendations.	✓		
Overall Rating for Additional Criteria 4	✓		

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Additional Criteria	**Rating Scale** Please indicate the rating for each by placing a check mark (✓) in the appropriate cell.		
	Adequate	**Limited**	**No Evidence**
5. Materials are presented in an organized, logical manner and are appropriate for the age, grade, and maturity of the students. • Materials are organized appropriately within and among units of study. • Format design includes titles, subheadings, and appropriate cross-referencing for ease of use. • Writing style, length of sentences, and vocabulary are appropriate. • Graphics and illustrations are appropriate. • Level of abstraction is appropriate, and real life examples, including careers are provided. • Sufficient applications are provided to promote depth of understanding.		✓	
Overall Rating for Additional Criteria 5		✓	